DOCKET NO. 01-MV-0111 **PATENT**
Customer No. 30425

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of	:	Ren Egawa, et al.
Serial No.	:	10/034,751
Filed	:	December 27, 2001
For	:	APPARATUS AND METHOD FOR TRANSCODING STILL IMAGE DATA FILES INTO MPEG VIDEO DATA FILES AND DIGITAL VIDEO PLAYER IMPLEMENTING SAME
Group No.	:	2621
Examiner	:	Daniel T. Tekle

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Sir:

APPEAL BRIEF

The Appellants have appealed to the Board of Patent Appeals and Interferences from the decision of the Examiner dated December 19, 2006, finally rejecting Claims 1-21. The Appellants filed a Notice of Appeal on April 19, 2007, which was received by the U.S. Patent and Trademark Office on April 23, 2007. The Appellants respectfully submit this brief on appeal.

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REAL PARTY IN INTEREST

The real party in interest, and assignee of this case, is STMicroelectronics, Inc.

RELATED APPEALS AND INTERFERENCES

There are no known appeals or interferences that will directly affect, be directly affected by, or have a bearing on the Board's decision in this pending appeal.

STATUS OF CLAIMS

Claims 1-21 have been rejected pursuant to a final Office Action dated December 19, 2006. The rejection was reconfirmed in an Office Advisory Action dated March 14, 2007. Claims 1-21 are presented for appeal. A copy of the claims is provided in Appendix A.

STATUS OF AMENDMENTS

No amendment to the claims was filed following the final Office Action dated December 19, 2006.

SUMMARY OF CLAIMED SUBJECT MATTER

The following summary refers to disclosed embodiments and their advantages but does not delimit any of the claimed inventions.

In General

The claimed invention generally relates to a digital video player, such as a digital versatile disk (DVD) player, that converts JPEG or other still image data files to MPEG data files for display on a television screen as still images. The invention uses both a CPU and an MPEG processor to perform still image decoding and displaying. (*Application, Page 1, Lines 7-10; Page 4 Lines 3-5*).

The CPU breaks the image file down into multiple sub-picture files. Each sub-picture file is treated as an MPEG video frame and is used to construct an MPEG video stream. The MPEG video stream is then processed by the MPEG processor. (*Application, Page 4, Lines 6-9*).

The MPEG processor decodes the video stream and scales each sub-picture down to fit a monitor or television upon which the still image is to be displayed. Each scaled sub-picture is stored in a display buffer but is not displayed until the entire MPEG video stream is decoded. The display is frozen until a new MPEG video stream is completely constructed and decoded. (*Application, Page 4, Lines 10-15*).

Support for Independent Claims

Note that, per 37 C.F.R. § 41.37, only the independent claims are discussed in this section. The discussion of the claims in this section is for illustrative purposes and is not intended to affect the scope of the claims.

In an embodiment to which independent Claim 1 is directed, an apparatus for use in a digital video player (100) is provided. (*Application, Page 8, Line 19 – Page 10, Line 2*). The apparatus displays a digital still image file using a Moving Picture Expert Group (MPEG) standard. (*Application, Page 4, Lines 2-9*). The apparatus comprises a controller 110 and an MPEG processor (120). (*Application, Page 4, Lines 2-9; Page 8, Line 19 – Page 9, Line 6*). The controller (110) is capable of dividing the digital still image file into sub-picture files. (*Application, Page 4, Lines 6-7*). The controller (110) is further capable of constructing an MPEG video stream from the plurality of sub-picture files. (*Application, Page 4, Lines 7-8*). The MPEG processor (120) is capable of decoding the MPEG video stream to generate decoded sub-pictures, and scaling down the decoded sub-pictures to a reduced size. (*Application, Page 4, Lines 10-15*).

In an embodiment to which independent Claim 10 is directed, a digital video player (100) is provided. (*Application, Page 8, Line 19 – Page 10, Line 2*). The digital video player is capable of displaying a digital still image from a digital data storage medium. (*Application, Page 8, Line 19 – Page 10, Line 2*). The digital video player comprises a controller (110) and an MPEG processor (120). (*Application, Page 9, Lines 1-6*). The controller (110) is capable of dividing the digital still image file into sub-picture files. (*Application, Page 4, Lines 6-7*). The controller (110) is further capable of constructing an MPEG video stream from the plurality of sub-picture files. (*Application, Page 4, Lines 7-8*). The MPEG processor (120) is capable of decoding the MPEG video stream to generate decoded sub-pictures, and scaling down the decoded sub-pictures to a reduced size. (*Application, Page 4, Lines 10-15*).

In an embodiment to which independent Claim 19 is directed, a method (700) is provided for use in a digital video player (100) having an MPEG processor (120). (*Application, Page 18, Lines 4-6*). It is a method for displaying a digital still image file from the digital video player. (*Application, Page 18, Lines 4-6*). The method (700) comprises the following steps: The first step (705) is dividing the digital still image file into sub-picture files. (*Application, Page 18, Lines 6-8*). The next step (710) is constructing an MPEG video stream file from the sub-picture files. (*Application, Page 18, Lines 10-11*). The next step (715) is decoding the MPEG video stream file. (*Application, Page 18, Lines 11-12*). The next step (720) is scaling the decoded MPEG video stream file to a reduced size. (*Application, Page 18, Lines 12-13*). The last step (725) is transmitting the reduced size video stream file to a display. (*Application, Page 18, Lines 13-15*).

GROUNDS OF REJECTION

1. Claims 1-8, 10-17 and 19-20 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,151,074 to Werner.

2. Claims 9, 18 and 21 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,151,074 to Werner in view of U.S. Patent No. 6,728,317 to Demos.

ARGUMENT

I. GROUND OF REJECTION #1 (§ 102 REJECTION)

The rejection of Claims 1-8, 10-17 and 19-20 under 35 U.S.C. § 102(b) is improper and should be withdrawn.

A. OVERVIEW

Claims 1-8, 10-17 and 19-20 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,151,074 to Werner ("*Werner*").

B. STANDARD

A claim is anticipated only if each and every element is found, either expressly or inherently described, in a single prior art reference. The identical invention must be shown in as complete detail as is contained in the claim. MPEP § 2131 at p. 2100-76 (8th ed. rev. 5 August 2006).

C. CLAIMS 1-8, 10-17 AND 19-20

Claim 1 is reproduced below:

> 1. (Original) For use in a digital video player, an apparatus for displaying a digital still image file using a Moving Picture Expert Group (MPEG) standard, the apparatus comprising:
>
> a controller capable of dividing the digital still image file into a plurality of sub-picture files, the controller further capable of constructing an MPEG video stream from the plurality of sub-picture files; and
>
> an MPEG processor capable of decoding the MPEG video stream to generate a plurality of decoded sub-pictures and scaling

> down the plurality of decoded sub-pictures to a plurality of reduced size decoded sub-pictures.

Claim 1 requires, among other limitations, "a controller capable of dividing the digital still image file into a plurality of sub-picture files, the controller further capable of constructing an MPEG video stream from the plurality of sub-picture files" (emphasis added). This feature is not taught or suggested at all by *Werner*. *Werner* does mention in col. 5 that it "can be" for still or full-motion decompression algorithms, but does not then teach anything concerning a still image decompression algorithm.

Specifically, at no point does *Werner* teach or suggest anything related to dividing a still image file into a plurality of sub-picture files. In fact, *Werner* doesn't teach anything about files at all. The final Office Action states that "Werner does teach, 'Decoding engine processor programmed to decompress video data. Also Werner teaches various compression standards include JPEG and MPEG program to decompress still or motion algorithms (column 5 lines 27-58).'" For convenient reference, this passage reads:

> Decoding engine 24 is a processor programmed to decompress the video data. It may be programmed to support various compression standards, such as the JPEG, MPEG, MPEG2, Px64, CCITT, etc. The programming can be for either still or full-motion decompression algorithms. Decoding engine 24 could be a multi-format decoding engine, switchable between decompression algorithms to perform whatever decompression method is appropriate for the input signal. The output of decoding engine 24 is decompressed pixel data which, in the example of this description, is in YCbCr format.
>
> An example of a suitable decoding engine 24 is the decoding engine of the CL450 MPEG Video Decoder manufactured by C-Cube Microsystems. It provides decompressed YCrCb data with an image size consistent with the input signal.

> A decoding engine bus 22b carries control information and data between decoding engine 24 and memory manager 22. The control information includes requests for data from decoding engine 24, which requests data as needed for processing. In response to a request, memory manager 22 generates the address of the next data to be decoded, retrieves the data from memory 23, and delivers it to decoding engine 24. Bus 22b is bidirectional--after decompression, decoding engine 24 delivers the data back to memory manager 22, which generates an address for storing it in memory 23.

It is clear that nothing in this passage teaches or suggests anything related to dividing a still image file into a plurality of sub-picture files, or anything at all about files.

The final Office Action further states (entire quotation *sic*):

> It is inherent JPEG or MPEG decoder to divide digital still image in to plurality Macroblock or block and reconstruct to a picture frame. There is no difference between constructing an MPEG video from the plurality of sub-picture and constructing an MPEG video from plurality of Macroblock since sub-picture made of plurality blocks.

Nothing at all in *Werner* teaches or suggests dividing a digital still image file into a plurality of sub-picture files, as claimed. This is not "inherent" to anything *Werner* teaches, nor to any part of the JPEG or MPEG standard. Nothing in the art of record even teaches that the claimed "dividing a digital still image filed into a plurality of sub-picture files" may even happen. This is a legally deficient rejection.

The final Office Action further states that "Also MPEG video is made of a plurality image file or frames." While an MPEG video, when played, displays a series of frames, it is factually incorrect to say that MPEG video is "made of a plurality image file," to the extent the Applicant

understands this statement. This is a factually deficient rejection.

The final Office Action asserts, without providing any basis at all:

> It is (inherent) necessary MPEP encoder divides digital still image into plurality Macro block or block in order to encode video signal, the frame of the video must be divided into block or Macroblocks. The Macroblock or block anticipates the claimed sub-pictures file. It is necessary to divide the video frames into sub-pictures files in MPEG encoding.

The final Office Action provides no basis in fact or any technical reasoning or other support, as required, although he does underline "necessary": "In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." *Ex parte Levy,* 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original).

A "macroblock" is commonly known to be a block of pixels in a picture, and has nothing to do with files at all. Nothing in *Werner*, or any other art of record, alone or in combination, teaches or suggests a controller capable of dividing a digital still image file into a plurality of sub-picture files, as claimed. Nothing in *Werner*, or any other art of record, alone or in combination, teaches or suggests a controller capable of constructing an MPEG video stream from the plurality of sub-picture files, as claimed.

Independent claim 10 includes similar language, and so *Werner* also does not anticipate claim 10. Independent claim 19 requires dividing a digital still image file into a plurality of sub-picture files. As discussed above, nothing in *Werner*, or any other art of record, alone or in combination,

teaches or suggests this feature.

In summary, the rejections under 35 U.S. § 102(b) are improper. Applicant respectfully requests that the Board of Appeals reverse the decision of the Examiner rejecting pending claims 1-8, 10-17 and 19-20 in the application.

II. GROUND OF REJECTION #2 (§ 103 REJECTION)

The rejection of Claims 9, 18 and 21 under 35 U.S.C. § 103(a) is improper and should be withdrawn.

A. OVERVIEW

Claims 9, 18 and 21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,151,074 to Werner ("*Werner*") in view of U.S. Patent No. 6,728,317 to Demos ("*Demos*").

B. STANDARD

In *ex parte* examination of patent applications, the Patent Office bears the burden of establishing a *prima facie* case of obviousness. (*MPEP § 2142; In re Fritch, 972 F.2d 1260, 1262, 23 U.S.P.Q.2d 1780, 1783 (Fed. Cir. 1992)*). The initial burden of establishing a *prima facie* basis to deny patentability to a claimed invention is always upon the Patent Office. (*MPEP § 2142; In re Oetiker, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); In re Piasecki, 745 F.2d 1468, 1472, 223 U.S.P.Q. 785, 788 (Fed. Cir. 1984)*). Only when a *prima facie* case of obviousness

is established does the burden shift to the Appellants to produce evidence of nonobviousness. (*MPEP § 2142; In re Oetiker, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); In re Rijckaert, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993)*). If the Patent Office does not produce a *prima facie* case of unpatentability, then without more the Appellants are entitled to grant of a patent. (*In re Oetiker, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); In re Grabiak, 769 F.2d 729, 733, 226 U.S.P.Q. 870, 873 (Fed. Cir. 1985)*).

A *prima facie* case of obviousness is established when the teachings of the prior art itself suggest the claimed subject matter to a person of ordinary skill in the art. (*In re Bell, 991 F.2d 781, 783, 26 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1993)*). To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed invention and the reasonable expectation of success must both be found in the prior art, and not based on Appellants' disclosure. (*MPEP § 2142*).

C. CLAIMS 9, 18 AND 21

Claims 8, 18 and 21 dependent from claims 1, 10 and 19, respectively, so the arguments above regarding *Werner* apply here as well, and are hereby incorporated by reference. Claims 1, 10 and 19 each require dividing a digital still image file into a plurality of sub-picture files. This feature

is not found in *Werner*. This feature is also not found in *Demos*. These references, alone or in combination, fail to teach this feature.

Therefore, the rejections under 35 U.S. § 103(a) are improper. Applicant respectfully requests that the Board of Appeals reverse the decision of the Examiner rejecting pending claims 9, 18 and 21 in the application

CONCLUSION

The Appellants have demonstrated that the present invention as claimed is clearly distinguishable over the prior art references cited of record. Therefore, the Appellants respectfully request the Board of Patent Appeals and Interferences to reverse the final rejection of the Examiner and instruct the Examiner to issue a notice of allowance of all claims.

Respectfully submitted,

MUNCK BUTRUS, P.C.

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APPENDIX A

PENDING CLAIMS APPENDIX

1. For use in a digital video player, an apparatus for displaying a digital still image file using a Moving Picture Expert Group (MPEG) standard, the apparatus comprising:

a controller capable of dividing the digital still image file into a plurality of sub-picture files, the controller further capable of constructing an MPEG video stream from the plurality of sub-picture files; and

an MPEG processor capable of decoding the MPEG video stream to generate a plurality of decoded sub-pictures and scaling down the plurality of decoded sub-pictures to a plurality of reduced size decoded sub-pictures.

2. The apparatus as set forth in Claim 1 wherein said MPEG processor is further capable of storing the plurality of reduced size decoded sub-pictures in a display buffer.

3. The apparatus as set forth in Claim 2 wherein said MPEG processor is further capable of displaying contents of the display buffer only after the MPEG video stream is decoded.

4. The apparatus as set forth in Claim 3 wherein said MPEG processor is further capable of freezing display of display buffer contents until a second MPEG video stream is completely decoded.

5. The apparatus as set forth in Claim 1 and further including decode memory that stores the decoded sub-pictures.

6. The apparatus as set forth in Claim 1 wherein said controller is further capable of determining a size for each of the plurality of sub-picture files.

7. The apparatus as set forth in Claim 6 wherein said controller is capable of determining the size for each of the plurality of sub-picture files by calculating a quantity of 16 x 16 pixel macro blocks that is less than a maximum quantity of macro blocks that the MPEG processor can accept and decode.

8. The apparatus as set forth in Claim 7 wherein said controller is further capable of determining that the size of each of the plurality of sub-picture files does not exceed a size of the display buffer.

9. The apparatus as set forth in Claim 7 wherein each of said sub-picture files can be scaled down by overlapping a current sub-picture row of macro blocks with a last row of macro blocks from a subsequent sub-picture file.

10. A digital video player capable of displaying a digital still image from a digital data storage medium, said digital video player comprising:

a controller capable of dividing the digital still image file into a plurality of sub-picture files, the controller further capable of constructing an MPEG video stream from the plurality of sub-picture files; and

an MPEG processor capable of decoding the MPEG video stream to generate a plurality of decoded sub-picture files and scaling down the plurality of decoded sub-picture files to a plurality of reduced size decoded sub-picture files.

11. The digital video player as set forth in Claim 10 and further including memory for storing the plurality of decoded sub-picture files.

12. The digital video player as set forth in Claim 10 wherein said MPEG processor is further capable of storing the plurality of reduced size decoded sub-pictures in a display buffer.

13. The digital video player as set forth in Claim 12 wherein said MPEG processor is further capable of displaying contents of the display buffer only after the MPEG video stream is decoded.

14. The digital video player as set forth in Claim 13 wherein said MPEG processor is further capable of freezing display of display buffer contents until a second MPEG video stream is completely decoded.

15. The digital video player as set forth in Claim 10 wherein said controller is further capable of determining a size for each of the plurality of sub-picture files.

16. The digital video player as set forth in Claim 15 wherein said controller is capable of determining the size for each of the plurality of sub-picture files by calculating a quantity of 16 x 16 pixel macro blocks that is less than a maximum quantity of macro blocks that the MPEG processor can accept and decode.

17. The digital video player as set forth in Claim 16 wherein said controller is further capable of determining that the size of each of the plurality of sub-picture files does not exceed a size of the display buffer.

18. The digital video player as set forth in Claim 16 wherein each of said sub-picture files can be scaled down by overlapping a current sub-picture row of macro blocks with a last row of macro blocks from a subsequent sub-picture file.

19. For use in a digital video player having a Moving Picture Expert Group (MPEG) processor, a method for displaying a digital still image file from the digital video player, the method comprising the steps of:

dividing the digital still image file into a plurality of sub-picture files;

constructing an MPEG video stream file from the plurality of sub-picture files;

decoding the MPEG video stream file to generate a decoded MPEG video stream file;

scaling the decoded MPEG video stream file to a reduced size video stream file; and

transmitting the reduced size video stream file to a display.

20. The method as set forth in Claim 19 further comprising the step of determining a size for the display prior to scaling the decoded MPEG video stream file.

21. The method as set forth in Claim 20 further comprising the steps of:

overlapping a last portion of a first sub-picture file with a first row of a subsequent sub-picture file; and

coding the reduced size into an MPEG sequence-level header of the MPEG video stream.

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APPENDIX B

EVIDENCE APPENDIX

None

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APPENDIX C

RELATED PROCEEDINGS APPENDIX

None